

Today's Date: 6/1/2001



DB Name	Query	Hit Count	Set Name
JPAB,EPAB,DWPI	'met glu leu lys ser leu gly' or melkslg\$	0	<u>L14</u>
•	'met thr ser ser gln gln arg val glu' or mtssqqrve\$	0	<u>L13</u>
JPAB,EPAB,DWPI	110 and 111	93	<u>L12</u>
JPAB,EPAB,DWPI	erwinia	760	<u>L11</u>
JPAB,EPAB,DWPI	harpin or 'hypersensitive response' or 'HR'	243123	<u>L10</u>
USPT	18 not 14	27	<u>L9</u>
USPT	17 same 12	42	<u>L8</u>
USPT	'hypersensitive response' or 'HR'	93578	<u>L7</u>
USPT	'met thr ser ser gln gln arg val glu' or mtssqqrve\$	1	<u>L6</u>
USPT	'met glu leu lys ser leu gly' or melkslg\$	1	<u>L5</u>
USPT	11 same 12	20	<u>L4</u>
USPT	11 same 12	20	<u>L3</u>
USPT	erwinia	1892	<u>L2</u>
USPT	harpin	52	<u>L1</u>

DKGGCEEDNASAVEEQPGLTLGVSSSSGEALTNAVQPSSETVQQESSSSSHHDAKNQQPV MTSSQQYVDIYSFTSEENRRFARSNFTKLVHTNARFEGINTTLPQTQTIMDGMSVAGVPV MTSSQVKTKPFDSWSYSEMEKEFPELIRSVGLLTVAADSISTNGSEAVTEEVSQVSLSVD MTSSRKVRPTKHIFVTGGVVSSLGKGLTAASLGQLLIARGLSVTMQKLDPYLNVDPGTMN MTSSQQRVERFLQYFSAGCKTPIHLKDGVCALYNEQDEEAAVLEVPQHSDSLLLHCRIIE MTSSQYEDDVERAVDEAILYLGKTCCEKKTCDGMDAWIFDIDDTLLSTIPYHKSNGCFGG Methods of imparting stress resistance to plants with hypersensitive response elicitor proteins derived PCENATPKRTIRDCFNYNEDSPTQPTLPKRGLFLKEETFKNDLKGNGGKRQMVDLKPEMS Sequences encoding fragments of microbial hypersensitive response elicitor proteins which are active MTSSQPTPDSAAQPKANSAASLKKALGECLIKDRFRFSKRIDGASKIKNESARNAVFDEI NNKKRSKEQKKNNISHHNYKLKNNKENNHHRLAKEAAAGKSEIETVLGGGTKFTSGDEQP ALDIAQSMMVVEQRKQQMPKIEYPALLPVSQKRDDIAQAIAHHQVVIVAGETGSGKTTQL AAAATDVEVETEDDVDDDDVRLLEEDDDASDAADIILESQRPTSRNFSVYLDAKKYQNS⁻ Homology and functional similarity of an hrp-linked pathogenicity locus, dspEF, of Erwinia amylovora PFEHGEVFVTEDGAETDLDLGHYERFLDRNLGLNANVTTGKVYSTVIAKERRGEYLGKTV VLLKNSDRLINRDGRLCDWHGRDCGDPWIGSTEYKLEEMDNHNEEPNIAPEPNRWYNITL ENYTLTINDDQCLLLSETVWGALRGLETFSQLVWKSAEGTFFINKTEIEDFPRFPHRGLLL PKICAELGRGKYGLIGHTQPRRLAARSVANRIAEEMETELGGFVGYKVRFTDQISDQTQI ADPQTSITLYSMLLQLNFEMAAMRGCWLALDELHNVRLCFQQSLEHLDEASFSDIVSGFI EDVLTIVNLKRGWQYVTTETAEMTLDIEKAINKIVAAEDALVPGELRQGQGGVNLGDEEF MTSSRLCEIMNYQVAVKAE'AAA'AVVKVELLARVEAELVTSERNRECGISVLALGVQQF MTSSRGAPFSALTHLTACRILLADFNLQEEASIPEDIFDQHDGDIGDEDIESAHIQYAPS PGCSVLDEAFQRYRDLLFGSGSWPRPYLTGKRHTLEKNVLVVSVVTPGCNQLPTLESV FEPPLINQQEEQTFLQKTLTNSHTTTTDKALTIMYHNMRQQIFWDGNKRTATLSANKIMI EQLNTTKFEEWQNSGKAPAVPHMVKLYHEIRERGFKIFLISSRKEYLRSATVENLIEAGY HSWSNLLLRGEDDEKKSVSQYKADLRTWLTSLGYRVWGVMGAQWNSFSGCPVPKRT QVIPHITDEIKARILSMGEPDAHGNAPDVVISEVGGTVGDIESQPFLEAARQVRHEIGRE MTSSRLWFSLLLAAAFAGRATALWPWPQNFQTSDQRYVLYPNNFQFQYDVSSAAQ Hypersensitive response elicitor from Erwinia amylovora and its use for plant genetic engineering **AFRACHTISVKLEAENNAHFFSIITKIDIAGLIQMAHFELTFGFGILISNTICEKLELQS** Recombinant constructs and systems for secretion of proteins via type III secretion systems but do not elicit a hypersensitive response, and their applications in plant genetic engineering and the avirulence locus avrE of Pseudomonas syringae pathovar tomato QHLKCCPITTLKIDQSFVARLPDDARDQTI/SQEP DTSRHYLPLSSILDTLDVMAYNKLNV/SQEP 2000 **DGGAGLINVPLDKWAKWNEL/SQEP** ANSWER 1 OF 6 CA COPYRIGHT 2001 ACS ANSWER 2 OF 6 CA COPYRIGHT 2001 ACS QLEDREQVEHEENANFGRQS/SQEP ANSWER 3 OF 6 CA COPYRIGHT 2001 ACS ANSWER 4 OF 6 CA COPYRIGHT 2001 ACS ANSWER 5 OF 6 CA COPYRIGHT 2001 ACS RSTPSLVDPPDRSKLCLVLQ/SQEP KLMTDGILLAEIQNDRFLNQ/SQEP GPSLLNNNHSYSPKFCTLRY/SQEP EHAAEVREYIAQLDESSAA/SQEP NCFFIHCSLVPYLATSGELK/SQEP 2000 MTSSRIGTHTTPA/SQEP 0 --> MTSSQQRVE/SQEP from fungal and bacterial pathogens 8 FKLPNSIYYVA/SQEP 800 2000 2000 88 E30 E2 E12 E5 <u>E</u>9 E7 չ 7 4 4 ⊏ MELKSDLIFTDTIYSEIIISKNLSKKDLKIEYSNLYTEILLRQKDGSLIEALRPNSNFFDQYDIES QPSTAADGISAAHQQKKSFSLRGCLGTKKFSRSAPQGQPGTTHSKGATLRDLLARDDG SPQETGDALTSEHDGYASCSFNQNDHSNHSQTTDSASVNGFHSPELEDAESAYNQHGSS MELKSIKDAFDRVATKQKLSYSKTNEIVHMLSQEIDKALSILEETPSSDTMLLDHRSILADV KKVFMEIAPITQLEATEKELHAALTKYPKVLEKQLNPDISKAYRHNVEFDTHIVNQIINFFY RQGMFDIGDCFVAETGESECSTRQSFVEMYRILEAMKRRDLEPALNWAVSNSDKLKEA **MELKSLGTEHKAAVHTAAHNPVGHGVALQQGSSSSSPQNAAASLAAEGKNRGKMPRIH** NSSMNRSPAAKKVEKYAVDRVKGDGRCLFRALVKGMAFNKGITLNPQRERDDADELRMAV MELKSLLAVYLPLCAAPLAAARPASNAVFIVGGSPAAAGEFPFIVSTLLNGRHWCGGVLL NANTVLTAAHCVESTPAISQVRAGSLAHASGGVVANISSITPHPKYEGLGYDMAILKLST ETQHEAAAPDAARLTRSGGVKRRNMDDMAGRPMVKGGSGEDKVPTQQKRHQLNN PIEANGTIVRHIARGSDPVGGADATVAGWGDLEYAGQAPEELQKVTVPVVDRATCSAAYQ MELKSMDPVEMPIFGSTLKLMKFWSYLFVHNWRRYVAMTPYIIINCTQYVDIYLSTESLD PGGFLPLAESFGLMPEIGAWVLGEACRQMHKWQGPAWQPFRLAINVSASQVGPTFDDE MELKSPEEEVVAALPEGMRPDSNLYGFPWELVICAAVVGFFAVLFFLWRSF'AAA'SVRS MELKSPEEEVVAALPEGMRPDSNLYGFPWELVICAAVVGFFAVLFFLWRSF'AAA'SVRS MELKTEEEEVGGVQPVSIQAFASSSTLHGLAHIFSYERLSLKRALWALCFLGSLAVLLCV MELKTEEEEEVGGVQPVSIQAFASSSTLHGLAHIFSYERLSLKRALWALCFLGSLAVLLCV RYEIPDTQMADEKQLEILQDKANFRSFKPKPFNMREFYDRAGHDIRDMLLSCHFRGEACS RYEIPDTQVADEKQLEILQDKANFRSFKPKPFNMREFYDRAGHDTRDMLLSCHFRGEACS MELKSSKTDVHGGSVFMFDRKVLRYFRKDGHNWRKKKDGKTVKEAHERLKAGSVDV LHCYYAHGQDNENFQRRSYWLLQEELSHIVFVHYLEVKGSRVSTSFNRMQRTEDAAR CTERVQYYFCYHHVTKLDEVAASQLTFPAVTLCNLNEFRFSQVSKNDLYHAGELLALLNN CTERVQYYFCYHHVTKLDEVAASQLTFPAVTLCNLNEFRFSQVSKNDLYHAGELLALLNN **MELKSSSNNNILEQLRNGFARFELVSSPTASVSDSISSTSLPASFISTTKGNSYVFFARI** MTSSQPAGWTAAELAQAAARGQLDLHYQPLVDLRDHRTVGAEALMRWRHPRLGLLP LSVLISRINLLMGCCTCIGFVTYPIFGSERVLPYGMYLPTIDEYKYASPYYEIFFVIQAI FIIRNVYLAVLFTNTVVRGVLLCVQRFSYERFINILKSFYIELLQSDDPIINILVKETTR FILE 'REGISTRY' ENTERED AT 13:58:18 ON 01 JUN 2001 (FILE 'HOME' ENTERED AT 13:58:05 ON 01 JUN 2001) FGQMRQTMLSKMAHPASANAGDRLQHSPPH/SQEP FILE 'CA' ENTERED AT 14:01:23 ON 01 JUN 2001 IKNTGIKFKPMVIKYHLTEDALYKISSFN/SQEP TAYSHQELQQPATGGNLTGFDPYYQISUSQEP MAPMGCCMYIPYTNMVVTFT/SQEP AIPNMPNITDAMFCAGLKEG/SQEP AEDFKVVFTRYGKCYTFNSG/SQEP AEDFKVVFTRYGKCYTFNSG/SQEP RSDLEMKLHSLHFLEIA/SQEP 1 S MTSSQQRVE/SQSP E MTSSQQRVE/SQEP 2 S MELKSLG/SOSP E MELKSLG/SQEP MELKSLG/SQEP RLYVGRG/SQEP RLYVGR/SQEP **KEVIC/SQEP** 6 S L2 5 S L3 => e mtssqqrve/sqep => e melksig/sqep 1 0 0

E10

딥

7 **C2**

딥 **E**2 **E** 4

8

<u>E</u>6

E7 83

L4 ANSWER 6 OF 6 CA COPYRIGHT 2001 ACS TI DspA, an essential pathogenicity factor of Erwinia amylovora showing homology with AvrE of Pseudomonas syringae, is secreted via the Hrp secretion pathway in a DspB-dependent way

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128:112730 CA

DspA, an essential pathogenicity factor of Erwinia amylovora showing homology with AvrE of Pseudomonas syringae, is secreted via the Hrp secretion pathway in a DspB-dependent way

Gaudriault, S.; Malandrin, L.; Paulin, J.-P.; Barny, M.-A.

Laboratoire de pathologie vegetale INA-PG/INRA, Paris, 75231, Fr. SO Mol. Microbiol. (1997), 26(5), 1057-1069

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by 4 kb. The genetic anal. reported in this paper showed that this 4 kb region is not expressed only in a HrpL-proficient strain, indicating that the dsp region, like the hrp identified upstream of dspA, and primer extension anal. detected four transcriptional sequence (TTGCCC-N16-GATAAT) was obsd. upstream of dspB. The functionality in a HrpL+ background than in a HrpL- background. Transposon insertions in either M9 galactose minimal medium at 25.degree.C. A dsp::uidA fusion appeared to be dspA or dspB led to a non-pathogenic phenotype. Thus, both DspA and DspB were required for E. amylovora pathogenicity, as dspB could be expressed independently plant but not for hypersensitive elicitation on tobacco, is sepd. from the hrp region bp), and that the insertions leading to the dsp::lacZ and the dsp::uidA fusions were within dspA. A HrpL-dependent promoter sequence (GGAACC-N15-CAACA) was shown to activate dspB, as expression of the dspB::uidA fusion was twofold higher detected in rich medium at 30 degree.C, and the highest expression was obsd. in DspB was predicted to be acidic, like the Syc chaperone of Yersinia. A chaperone In Erwinia amylovora, the dsp region, required for pathogenicity on the host revealed that the dsp cluster encodes two genes, dspA (5517 bp) and dspB (420 region, is pos. controlled via the atternative .sigma. factor HrpL. Sequence anal. of this second promoter was confirmed by complementation anal. This promoter dspB::uidA fusion in rich medium. In M9 galactose medium, however, HrpL was of dspA. DspA and DspB were visualized as polypeptides with apparent sizes of sequence of Pseudomonas syringae pv. tomato avrE transcriptional unit III, was required for pathogenicity on pear seedlings. The environmental conditions allowing expression of a dsp::lacZ fusion were examd.: expression was barely system. DspA, which showed homol. with the protein predicted from the partial role for DspB was suggested further by the fact that DspA secretion required a starts 7, 8, 9 and 10 bp downstream of this sequence. A sigma 70 promoter shown to be secreted into the external medium via the Hrp secretion pathway. allowed constitutive expression of dspB, as measured by the expression of a 190 kDa and 15.5 kDa, resp., when encoded in the T7 polymerase/promoter

L5 ANSWER 1 OF 5 CA COPYRIGHT 2001 ACS Ti Methods of imparting stress resistance to plants with hypersensitive response elicitor proteins derived from fungal and bacterial pathogens

functional DspB protein.

- ANSWER 2 OF 5 CA COPYRIGHT 2001 ACS
- Sequences encoding fragments of microbial hypersensitive response elicitor proteins which are active L5 ANSWER 2 OF 5 CA COPYRIGHT 2001 ACS
 TI Sequences encoding fragments of microbial hypersensitive response elicitor proteins which but do not elicit a hypersensitive response, and their applications in plant genetic engineering
- L5 ANSWER 3 OF 5 CA COPYRIGHT 2001 ACS TI Hypersensitive response elicitor from Erwinia amylovora and its use for plant genetic engineering
- L5 ANSWER 4 OF 5 CA COPYRIGHT 2001 ACS TI Homology and functional similarity of an hrp-linked pathogenicity locus, dspEF, of Erwinia amylovora and the avirulence locus avrE of Pseudomonas syringae pathovar tomato
- L5 ANSWER 5 OF 5 CA COPYRIGHT 2001 ACS TI DspA, an essential pathogenicity factor of Erwinia amylovora showing homology with AvrE of Pseudomonas syringae, is secreted via the Hrp secretion pathway in a DspB-dependent way